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ABSTRACT

The guide, part of an exemplary career education program, contains a science unit for junior high school students which is designed to help students obtain information on science occupations found in the Interactive Learning System-Guidance-Occupational Information File of the TIES Computer System in Minneapolis-St. Paul. The guide lists goals and objectives and provides operating procedures for obtaining from the computer either the job description, worker requirements, and related jobs, or the occupational characteristics for any requested occupation. It also provides an eight-page list of science-related occupations with their appropriate job code numbers. It concludes with a sample computer tape printout. (JR)

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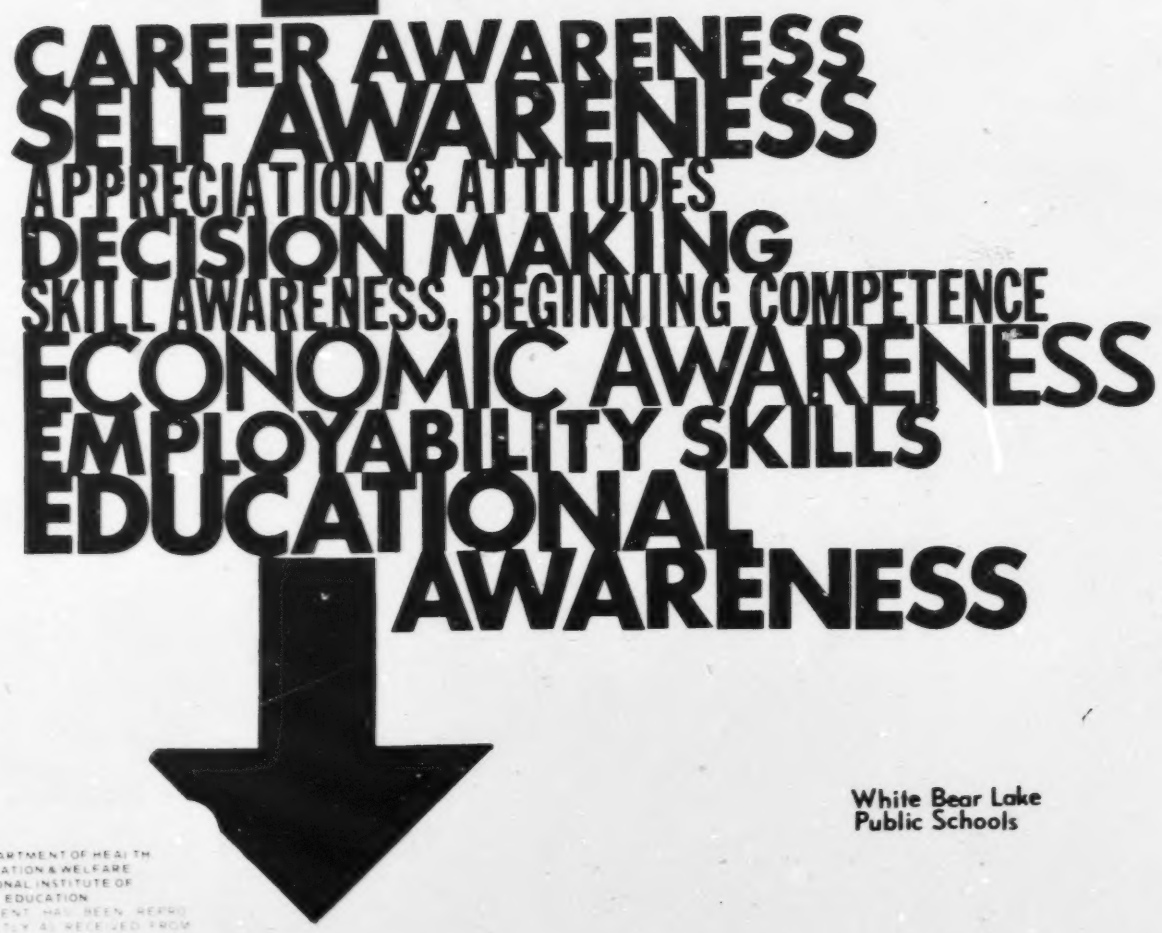
# CAREER EDUCATION

OCCUPATIONAL COMPUTER SYSTEM

ADAPTED FOR

SCIENCE

A CAREER DEVELOPMENTAL PROGRAM




White Bear Lake
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# OCCUPATIONAL COMPUTER SYSTEM

# ADAPTED FOR

# SCIENCE

# FOR THE

# JUNIOR HIGH STUDENT

by

Charlotte Winnen

John Strenger

CAREER DEVELOPMENT

Grades 7 - 9

An Exemplary Program
in
Career Education

Funded under the Provisions of Part D
of the Vocational Education Amendment of 1968
for
Independent School District #624
White Bear Lake, Minnesota

Ernest M. Thomsen, Superintendent
Ron Johnstone, Director Vocational Education

1972 - 73

TO THE TEACHER:

This project is designed for use with TIES Computer System within the Metropolitan Twin City Area. It is an efficient means of obtaining information on career occupations found in the Interactive Learning System-Guidance-Occupational Information File. Although this project was specifically designed to obtain information in science careers, it can easily be adapted for any subject area.

By following the simplified entry format, students are then able to gain information by typing the letter "P" plus the occupational code number.* The computer replies with a job description, worker requirements, and related jobs. By typing the letter "I" plus the occupational code number* the computer itemizes all the occupational characteristics which are true for the selected occupation. The occupational characteristics are keyed by number and their key may be found in the "Occupational Information Study Booklet" found within this unit. Following is a list of the major groupings for the itemized characteristics.

1. Levels of Formal Education Preferred or Required by the Employer
2. Training other than Formal Education
3. Special Vocational Training
4. Other Qualifications Which May be Required
5. Methods of Entering Field
6. Advancement
7. Worker Attitudes Desirable for Occupation
8. Work Activities which Describe the Occupation
9. Tool and Machine Skills
10. Relationships to People
11. Physical Demands
12. Working Conditions
13. Areas of Work Where People in an Occupation May be Employed
14. Employment Outlook
15. Earnings Range - Salary

* The occupational code numbers were selected from a list of occupations which is obtainable from TIES.

# OCCUPATIONAL COMPUTER SYSTEM ADAPTED FOR SCIENCE


## ABSTRACT

Occupational Computer System adapted for science for Independent School District #624. Charlotte Winnen and John Strenger - Science teachers.

After learning that TIES had a time-share Occupational Information Program we decided that this program would be of great value to us in our science classes. However, we discovered it was very difficult to obtain the programmed information as instructed from the "Study Booklet" provided by TIES. As a result, we have developed a unit which allows the student to enter and leave the computer program effeciently, yet allowing him to obtain information about the science occupations he is interested in.


MAJOR OBJECTIVES:

1) Students will be able to use the adapted program for exploring various science occupations.

2) Students will be able to properly use the computer as a communication media in exploring science occupations.

3) The students will be able to use the unit in conjunction with an elective choice in our eighth grade science program.

4) The unit will be available for all students to use on an individual basis.

STUDENT GOALS FOR CAREER EDUCATION

1) Awareness of career specialization in society.

2) Awareness of relationshiip between occupational requirements and educational development.

3) Exploration of interests in work roles related to science careers.

4) Exploration of career clusters in relationship to personal interest.

5) Preparation for identification of immediate steps and cost in terms of time and education requirements of science careers.

6) Exploration of benefits in scienc career cluster choice.

7) Awareness that personal interests will affect personal career choices.

8) Exploration of employability readiness based on skills and knowledge and attitudes of entry level jobs.

STUDENT OBJECTIVES

By following the procedure given below, each student will be able to:

1) Enter into computer
2) Enter into TIES computer: "Interactive Learning System-Occupational Information Program."
3) Obtain:
    a) job description
    b) job requirements
    c) list of job qualifications
    d) related occupations
4) Successfully "Q" leave computer system.

EXAMPLE: Computer tape can be found at the end of this unit.

LESSON I: ENTERING COMPUTER SYSTEM

1) Dial 636-4950, wait for tone.

2) Turn power to "ON".

3) Place telephone receiver into carrier.

4) Turn teletype knob (bottom-front) to "Line" position.

5) Type any 2 numbers and push RETURN button. Computer will type a response of "PLEASE LOG IN."

.....

LESSON II: ENTERING INTO TIES COMPUTER "INTERACTIVE LEARNING SYSTEM-OCCUPATIONAL INFORMATION PROGRAM."

| WHAT YOU SHOULD DO OR TYPE | COMPUTER RESPONSE |
|---|---|
| 1. Type: HEL - S530, then hold down CTRL button while you type WBLK. Release CTRL button and push RETURN button. | 1. ....."READY" |
| 2. Type: GET - *GIS and push RETURN button | 2. (no response) |
| 3. Type: RUN and push "RETURN" | 3. ... "WHICH FILE" |
| 4. Type: OCCU and push RETURN button. | 4. "OCCUPATIONAL INFORMATION READY?" |

LESSON III: OBTAINING JOB DESCRIPTIONS, JOB REQUIREMENTS, LIST OF JOB QUALIFICATIONS, AND RELATED OCCUPATIONS.

| WHAT TO DO OR TYPE | COMPUTER RESPONSE |
|---|---|
| 1. Type: P (plus selected occupational number found in adjoining catalogue) and push RETURN | 1. Gives: job description<br>job requirements<br>related jobs |
| 2. Type: I (plus an occupational number found in adjoining catalogue) and push RETURN | 2. Gives: List of job qualifications by code numbers found in attached listing |

.....

LESSON IV: PROCEDURE FOR LEAVING THE COMPUTER

| WHAT TO DO OR TYPE | COMPUTER RESPONSE |
|---|---|
| 1. Type: Q and push RETURN | 1. ...."WHICH FILE" |
| 2. Type: NONE and push RETURN | 2. ... END |
| 3. Type: BYE and push RETURN | 3. Gives terminal time |
| 4. Green light on telephone carrier will go off. | |
| 5. Replace receiver onto the telephone. | |
| 6. Turn teletype knob to "OFF" position. | |

## OCCUPATIONS RELATED TO SCIENCE

NOTE: The number before the occupation is the JOB CODE number.

### OCCUPATIONS IN ARCHITECTURE AND ENGINEERING
### (D.O.T. FAMILY # 00-01)

34 Aircraft Designer
67 Architect
68 Architect, Marine
277 Community Planner
366 Director, Physical Testing
367 Director, Quality Control
381 Draftsman, Aeronautical
382 Draftsman, Architectural
385 Draftsman, General
386 Draftsman, Landscape
387 Draftsman, Map
388 Draftsman, Marine
390 Draftsman, Structural
19 Engineer, Aeronautical
22 Engineer, Agricultural
46 Engineer, Airport
221 Engineer, Chemical
243 Engineer, Civil
269 Engineer, Combustion
291 Engineer, Construction
414 Engineer, Electrical
415 Engineer, Electrical Equip.
428 Engineer, Electrochemical
447 Engineer, Chief (Petrol)
579 Engineer, Heat Transfer
580 Engineer, Heating
586 Engineer, Highway
613 Engineer, Industrial
726 Engineer, Marine
738 Engineer, Measurement and Control
766 Engineer, Mining
921 Engineer, Propulsion Systems Design
898 Engineer, Steam Power Plant
980 Engineer, Rocket-Engine Test
954 Engineer, Refrigeration
1050 Engineer, Sanitary
987 Engineer, Safety, Mines
853 Engineer, Petroleum
1148 Engineer, Structural
508 Flight Analyst
527 Foundry Metallurgist
587 Highway Landscape Architect
657 Laboratory Assistant, Metallurgical
661 Landscape Architect
751 Metallurgist, Extractive
752 Metallurgist, Physical
1116 Specification Writer, Airplanes
1117 Specification Writer, Engineering
1113 Space Analyst
1160 Surveyor
1161 Surveyor, Geodetic
1162 Surveyor, Marine
1163 Surveyor, Mine
20 Technician, Aeronautical Eng.
23 Technician, Agricultural Eng.
244 Technician, Civil Engineering
419 Technician, Electrical
614 Technician, Industrial Eng.
740 Technician, Mechanical Eng.
813 Technician, Optical
937 Technician, Quality Control
881 Technician, Plastics Engineering
1125 Technician, Standards-Laboratory
1189 Technical Illustrator

### OCCUPATIONS IN MATHEMATICS AND PHYSICAL SCIENCES
### ( D.O.T. FAMILY # 02 )

83 Astrometrist
84 Astronomer
224 Chemist, Analytical
223 Chemist, Agricultural
222 Chemical Engineer Technician
225 Chemist, Food
226 Chemist, Inorganic
227 Chemist, Organic

OCCUPATIONS RELATED TO SCIENCE

(Cont-d)

OCCUPATIONS IN MATHEMATICS AND PHYSICAL SCIENCES
(D.O.T. FAMILY # 02)

| | |
|---|---|
| 251 | Climatologist |
| 335 | Demographer |
| 448 | Engineering Analyst |
| 553 | Geographer |
| 554 | Geologist |
| 555 | Geologist, Engineering |
| 556 | Geologist, Ground Water |
| 557 | Geologist, Mining |
| 558 | Geologist, Petroleum |
| 559 | Geophysical Prospector |
| 560 | Geophysicist |
| 561 | Glaciologist |
| 606 | Hydrographer (Meteorological Aid) |
| 607 | Hydrologist |
| 656 | Laboratory Assistant (Lt., Ht., Pr.) |
| 659 | Laboratory Tester I |
| 754 | Meteorologist |
| 805 | Oceanographer, Geological |
| 806 | Oceanographer, Physical |
| 811 | Operations Research Analyst |
| 863 | Physical Geographer |
| 867 | Physicist |
| 868 | Physicist, Atomic & Molecular |
| 869 | Physicist, Electronics |
| 870 | Physicist, Light |
| 871 | Physicist, Nuclear |
| 872 | Physicist, Theoretical |
| 917 | Programmer, Engr. & Science |
| 1067 | Seismologist |
| 1138 | Statistician, Phy. Science & Engineer |
| 1269 | Volcanologist |
| 1277 | Weather Chart Preparer |
| 1278 | Weather Observer |

OCCUPATIONS IN LIFE SCIENCES
(D.O.T. FAMILY # 04)

| | |
|---|---|
| 24 | Agrogeologist |
| 25 | Agronomist |
| 52 | Anatomist |
| 55 | Animal Husbandman |
| 128 | Biochemist |
| 133 | Biologist |
| 131 | Biological Aid |
| 134 | Biophysicist |
| 155 | Botanist |
| 330 | Dairy Husbandman |
| 331 | Dairy Technologist |
| 522 | Forest Ecologist |
| 523 | Forester |
| 552 | Geneticist |
| 594 | Horticulturist |
| 757 | Microbiologist |
| 822 | Ornamental Horticulturist |
| 856 | Pharmacologist |
| 946 | Range Manager |
| 1066 | Seed Analyst |
| 1106 | Soil Conservationist |
| 1107 | Soil Scientist |
| 1267 | Vocational Advisor |
| 1268 | Vocational Counselor |
| 1288 | Wood Technologist |

OCCUPATIONS IN SOCIAL SCIENCES
(D.O.T. FAMILY # 05)

| | |
|---|---|
| 21 | Agricultural Economist |
| 62 | Anthropologist |
| 66 | Archeologist |
| 400 | Economist |
| 372 | Director, Historical Society |
| 399 | Economic Geographer |
| 1053 | Scientific Linguist |

OCCUPATIONS RELATED TO SCIENCE

(Cont-d)

OCCUPATIONS IN MEDICINE AND HEALTH
(D.O.T. FAMILY # 07)

| | |
|---|---|
| 53 | Anesthesiologist |
| 89 | Audiologist |
| 90 | Audiometrist |
| 129 | Biochemistry Technologist |
| 138 | Blood Bank Technician |
| 193 | Cardiologist |
| 235 | Chiropractor |
| 308 | Corrective Therapist (Med. Ser.) |
| 329 | Cytotechnologist |
| 336 | Dental Assistant |
| 338 | Dental Hygienist (Med. Ser.) |
| 341 | Dentist |
| 342 | Dermatologist |
| 358 | Dietary Consultant |
| 357 | Diet Clerk (Diet Aid) |
| 359 | Dietitian |
| 360 | Dietitian (Teaching) |
| 427 | Electrocardiograph Tech. |
| 429 | Electroencephalograph Tech. |
| 510 | Flight Surgeon |
| 551 | General Practitioner |
| 575 | Gynecologist |
| 578 | Hearing Clinician |
| 583 | Hematology Technician (Med. Ser.) |
| 620 | Inhalation Therapist |
| 658 | Laboratory Technician, Vet. |
| 742 | Medical Assistant |
| 744 | Medical Laboratory Ass. |
| 748 | Medical Technologist |
| 758 | Microbiology Technologist |
| 796 | Nuclear Medical Technologist |
| 798 | Nurse Anesthetist |
| 957 | Nurse, Registered, Gen. Duty |
| 799 | Nurse, Licensed Practical |
| 800 | Nurse, Office (Med. Ser.) |
| 909 | Nurse, Private Duty |
| 802 | Obstetrician |
| 803 | Occupational Therapist |
| 804 | Occupational Therapy Aid |
| 812 | Ophthalmologist |
| 816 | Optometrist |
| 817 | Oral Pathologist |
| 818 | Oral Surgeon |
| 824 | Orthodontist |
| 825 | Orthoptist |
| 826 | Osteopathic Physician |
| 841 | Pathologist |
| 845 | Pediatrician |
| 847 | Periodontist |
| 855 | Pharmacist, Druggist |
| 857 | Pharmacy Helper |
| 864 | Physical Therapist |
| 866 | Physican, General Practice |
| 886 | Podiatrist |
| 887 | Podiatrist's Assistant |
| 923 | Psychiatrist |
| 930 | Public Health Educator |
| 945 | Radiologic Technologist |
| 944 | Radiologic Technologist, Chief |
| 969 | Research Nutritionist |
| 1049 | Sanitarian |
| 1068 | Serology Technician (Med. Ser.) |
| 1119 | Speech Clinician (Correctionist) |
| 1118 | Speech & Hearing Clinician |
| 1120 | Speech Pathologist |
| 1123 | Nurse, Staff, Occupational |
| 1153 | Surgeon |
| 1159 | Surgical Technician |
| 1254 | Urologist |
| 1261 | Veterinarian (Med. Ser.) |
| 1260 | Veterinarian, Laboratory Animal |
| 1263 | Veterinary Livestock Inspector |
| 1264 | Veterinary Virus-Serum Inspector |

OCCUPATIONS IN EDUCATION
(D.O.T. FAMILY # 09)

| | |
|---|---|
| 314 | County Agricultural Agent (Gov. Ser.) |
| 315 | County Home Demonstration Agent |
| 471 | Extension Service Agent (Gov.) |

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## OCCUPATIONS RELATED TO SCIENCE

(Cont-d)

### OCCUPATIONS IN EDUCATION (D.O.T. FAMILY # 09)

472 Extension Service Specialist
476 Faculty Member, College or University
485 Feed & Farm Management Advisor
528 Four-H Club Agent
571 Ground Instructor, Basic
591 Home Economist
592 Home Economist, Consumer Service
624 Instructor, Extension Work
626 Instructor, Military Science
906 Principal, School
1175 Teacher, Blind
1176 Teacher, Deaf
1177 Teacher, Elementary School
1178 Teacher, Handicapped
1179 Teacher, Industrial Arts
1180 Teacher, Junior College
1181 Teacher, Kindergarten
1182 Teacher, Mentally Retarded
1184 Teacher, Secondary School
1185 Teacher, Speech
1186 Teacher, Technical Education

### OCCUPATIONS IN MUSEUM, LIBRARY, AND ARCHIVAL SCIENCE (D.O.T. FAMILY # 10)

207 Cataloger (Library)
247 Classifier (Library)
487 Film Librarian
678 Librarian
679 Librarian, Reference Lib.
745 Medical Record Librarian

### OCCUPATIONS IN LAW AND JURISPRUDENCE (D.O.T. FAMILY # 11)

246 Claim Attorney (Insurance)
378 District Attorney (Gov. Ser.)
653 Judge
665 Law Clerk
668 Lawyer
669 Lawyer, Corporation
840 Patent Agent
1171 Tax Attorney

### OCCUPATIONS IN WRITING (D.O.T. FAMILY # 13)

14 Advertising Copywriter
305 Copy Reader
306 Copy Writer
401 Editor, News (Radio & TV)
402 Editor, Newspaper
404 Editorial Writer
484 Feature Writer (Print & Pub.)
537 Gag Writer
577 Handbook Writer
645 Interpreter
677 Lexicographer
966 Reporter, News
976 Rewrite Man (Print & Pub.)
1058 Script Writer
1188 Technical Editor
1289 Writer, Technical Publications

### OCCUPATIONS IN ART (D.O.T. FAMILY # 14)

16 Advertising Illustrator
132 Biological Photographer
147 Book Illustrator
197 Cartoon Background Artist
206 Catalog Illustrator
272 Commercial Photographer
362 Director, Art (Commercial)

OCCUPATIONS RELATED TO SCIENCE

(Cont-d)

ART - Cont-d

376 Display Designer (Outside)
570 Graphic Artist
610 Illustrator
611 Industrial Designer
701 Magazine Illustrator
743 Medical Illustrator
794 News Photographer
860 Photographer, Commercial
986 Safety Clothing & Equip. Dev. Man
1054 Scientific Photographer
1073 Set Director
1124 Stage Scenery Designer
1195 TV Film Field Coordinator

OCCUPATIONS IN ENTERTAINMENT & RECREATION
(D.O.T. FAMILY # 15)

56 Announcer, International Broadcast
58 Announcer, Radio
59 Announcer, Supervisor
60 Announcer, Television
627 Instructor, Physical Educ.

OCCUPATIONS IN ADMINISTRATIVE SPECIALIZATIONS
(D.O.T. FAMILY # 16)

13 Advertising Assistant
15 Advertising Director (Print & Pub.)
18 Advertising Manager
165 Broker (Ret., Whol. Tr.)
326 Customs Inspector
444 Employment Interviewer
616 Industrial Relations Dir.
877 Placement Officer (Educ.)
931 Public Information Writer
932 Public Relations Man
933 Publicity Supervisor
935 Purchasing Agent
1170 Tax Accountant

MANAGERS AND OFFICIALS
(D.O.T. FAMILY # 18)

1155 Superintendent, Park
1228 Trafic Manager (Air, Water Trans.)
1229 Traffic Manager (Any Ind.)

MISCELLANEOUS PROFESSIONAL, TECHNICAL & MANAGERIAL OCCUPATIONS
(D.O.T. FAMILY # 19)

31 Air Traffic Cont. Specialist, Tower
30 Air Traffic Control Specialist, Sta.
40 Airline Radio Operator, Chief
42 Airplane Pilot (Agric.)
43 Airplane Pilot, Commercial
188 Camp Director
228 Chief, Air Traf. Control Supv., Gov.
242 City Planning Engineer
276 Community Organization Worker
278 Community Relations - Service Adv.
625 Instructor, Flying
791 Navigator (Air. Trans.)
929 Public Health Assistant
943 Radiographer (Industrial X-Ray)
1101 Social Worker, Medical
1203 Test Pilot

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OCCUPATIONS RELATED TO SCIENCE

(Cont-d)

STENOGRAPHY, TYPING, FILING AND RELATED OCCUPATIONS
(D.O.T. FAMILY # 20)

746 Medical Secretary
747 Medical Stenographer

COMPUTING AND ACCOUNT-RECORDING OCCUPATIONS
(D.O.T. FAMILY # 21)

1132 Statistical Clerk

INFORMATION AND MESSAGE DISTRIBUTION OCCUPATIONS
(D.O.T. FAMILY # 23)

12 Admitting Officer (Med. Ser.)

SALESMAN, SERVICES
(D.O.T. FAMILY # 25)

549 General Agent, Insurance
639 Insurance Agent
640 Insurance Broker
673 Leaseman (Bus. Ser.)
681 Life Underwriter
948 Real Estate Broker
956 Registered Account Advisor
1009 Salesman, Insurance
852 Salesman, Pest Control Ser.
1023 Salesman, Public Utilities
1025 Salesman, Real Estate

SALESMEN AND SALESPERSONS, COMMODOTIES
(D.O.T. FAMILY # 26 - 27 - 28)

274 Commission Man, Agric. Produce
854 Pharmaceutical Detail Man (Whol.)
996 Salesman, Chemicals & Drugs (Whol.)
998 Salesman, Dental & Medical Equip.
1001 Salesman, Farm & Garden Equip.
1011 Salesman, Livestock
1013 Salesman, Marine Supplies
1072 Service-Salesman, Milking Mach.
1040 Salesperson, Furs (Ret. Trade)
1042 Salesperson, Lawn-Garden Equip.
1047 Salesperson, Surgical Appliances

FOOD AND BEVERAGE PREPARATION AND SERVICE OCCUPATIONS
(D.O.T. FAMILY # 31)

737 Meat Cutter

BARBERING, COSMETOLOGY, & RELATED SERVICE OCCUPATIONS
(D.O.T. FAMILY # 33)

122 Beautician
310 Cosmetologist
430 Electrologist
441 Embalmer

MISCELLANEOUS PERSONAL SERVICE OCCUPATIONS
(D.O.T. FAMILY # 35)

774 Morgue Man (Med. Ser.)
1262 Veterinary Hospital Attendant

PROTECTIVE SERVICE OCCUPATIONS
(D.O.T. FAMILY # 37)

270 Commanding Officer, Harbor Police
271 Commanding Officer, Homicide Sq.
345 Detective, Plainclothesman
346 Detective, Private Eye
491 Fire Fighter
492 Fire Fighter, Crash (Air Trans.)
493 Fire Inspector
646 Investigator, Narcotics

## OCCUPATIONS RELATED TO SCIENCE

(Cont-d)

PLANT FARMING OCCUPATIONS
(D.O.T. FAMILY # 40)

662 Landscape Gardener
801 Nurseryman
1152 Superintendent, Greens
1244 Tree Surgeon

ANIMAL FARMING OCCUPATIONS
(D.O.T. FAMILY # 41)

54 Animal Caretaker
480 Farmer, Dairy
532 Fur Farmer
896 Poultryman, Meat
(Poultry Farmer)

MISCELLANEOUS FARMING & RELATED OCCUPATIONS
(D.O.T. FAMILY # 42)

481 Farmer, General
1122 Sprayer (Agric.)

FISHERY AND RELATED OCCUPATIONS
(D.O.T. FAMILY # 43)

502 Fish Farmer
503 Fisherman, Hoop Net (Fish)
1081 Shellfish-Bed Man

FORESTRY OCCUPATIONS
(D.O.T. FAMILY # 44)

494 Fire Lookout (Gov. Ser.)
524 Forester Aid
1242 Tree Planter (Forestry)
1243 Tree Pruner (Forestry)

HUNTING, TRAPPING, & RELATED OCCUPATIONS
(D.O.T. FAMILY # 45)

538 Gamekeeper
602 Hunting & Fishing Guide

AGRICULTURAL SERVICE OCCUPATIONS
(D.O.T. FAMILY # 46)

72 Artificial Breeding Technician
332 Dairy Tester

OCCUPATIONS IN FABRICATION, ASSEMBLY, & REPAIR OF METAL PRODUCTS

168 Brooch Maker
569 Gold Beater (Gold Leaf & Foil)
648 Jeweler
1093 Silversmith (Silverware)
1144 Stone Setter

OCCUPATIONS IN FABRICATION & REPAIR OF SCIENTIFIC & MEDICAL APPARATUS, PHOTOGRAPHIC & OPTICAL GOODS, WATCHES & CLOCKS, AND RELATED PRODUCTS
(D.O.T. FAMILY # 71)

339 Dental Laboratory Technician
340 Dental Technician, Crown & Bridge
608 Hydrometer Calibrator
622 Inspector, Optical Elements
814 Optician, Dispensing
815 Optician, Optical Mechanic

PAINTING, DECORATING, & RELATED OCCUPATIONS
(D.O.T. FAMILY # 74)

445 Enameler, Jewelry

OCCUPATIONS RELATED TO SCIENCE

(Cont-d)

OCCUPATIONS IN FABRICATIONS & REPAIR OF SAND, STONE, CLAY, & GLASS PRODUCTS
(D.O.T. FAMILY # 77)

348 Diamond Cutter

OCCUPATIONS IN METAL FABRICATING
(D.O.T. FAMILY # 80)

304 Coppersmith
1214 Tinsmith

WELDERS, FLAME CUTTERS, & RELATED OCCUPATIONS
(D.O.T. FAMILY # 81)

973 Resistance Machine Welder
974 Resistance Welding Tech.

ELECTRICAL ASSEMBLING, INSTALLING & REPAIRING OCCUPATIONS
(D.O.T. FAMILY # 82)

468 Experimental-Rocket-Sled Mechanic
486 Field Engineeer (Electronics)
753 Meteorological Equipment Repairman
753 Meteorological Equipment Repairer

PAINTING, PLASTERING, WATER-PROOFING, CEMENTING, & RELATED OCCUPATIONS
(D.O.T. FAMILY # 84)

135 Bituminous Enameler
565 Glass Tinter (Glass Prod.)
663 Lather (Const.)

EXCAVATING, GRADING, PAVING, & RELATED OCCUPATIONS
(D.O.T. FAMILY # 85)

169 Bulldozer Operator
394 Dredge Operator (Const.)
462 Excavator
1245 Trench Digging Machine Operator

CONSTRUCTION OCCUPATIONS
(D.O.T. FAMILY # 86)

74 Asbestos Worker
140 Boatbuilder, Wood
195 Carpenter (Construction)
1145 Stonemason

OCCUPATIONS IN PRODUCTION & DISTRIBUTION OF UTILITIES
(D.O.T. FAMILY # 95)

899 Power-Reactor Operator
1131 Stationary Engineer

OCCUPATIONS IN GRAPHIC ART WORK
(D.O.T. FAMILY # 97)

265 Color-Laboratory Technician
1110 Sound & Laboratory Engineer

COMPUTER TAPE EXAMPLE

HEL-S530

PORT 9 4-18-73 3:15 PM
FOR SYSTEMS NEWS GET AND RUN SYSNEW.

WELCOME TO T I E S 2000C1 TIME SHARING SYSTEM.
READY

GET-*GIS
RUN
GIS
READ-ONLY FILES:
#1 #2 #3

INTERACTIVE LEARNING SYSTEMS

GUIDANCE INFORMATION

WHICH FILE? OCCU

OCCUPATIONAL INFORMATION READY

?P561

561
GLACIOLOGIST
024.081

COMPUTER TAPE EXAMPLE

(Cont-d)

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JOB DESCRIPTION AND WORKER REQUIREMENTS:
STUDIES THE EFFECTS OF GLACIERS ON THE CHANG-
ING EARTH:S SURFACE.  APPLIES KNOWLEDGE OF
CHEMISTRY, PHYSICS, MATH & BIOLOGY.  REQ.
ABILITY TO ACQUIRE NEEDED ACADEMIC BACK-
GROUND; THOROUGHNESS; INQUISITIVE MIND.

RELATED JOBS:
HYDROLOGIST                          024.081
OCEANOGRAPHER, PHYSICAL              024.081
SEISMOLOGIST                         024.081
MINERALOGIST                         024.081
FOR FURTHER INFORMATION:
AMERICAN GEOPHYSICAL UNION
2100 PENNSYLVANIA AVE., NW. WASH., D.C. 20037
SOCIETY OF EXPLORATION GEOPHYSICISTS
BOX 3098, TULSA, OKLAHOMA 74101


?I561

561


GLACIOLOGIST
 1    3    103  104  106  129  135  136  138  146  149  150  151  152
 153  154  156  159  162  165  168  171  172  175  178  181  184  187
 189  197  198  200  202  218  221  227  229  232  233  236  244  246
 254  269  277  283  284  285  286  287  288  289  290  291  292


?Q


WHICH FILE?NONE



END
BYE
003 MINUTES OF TERMINAL TIME
 P
```